

## APPENDIX A.—DETAILS AND SENSITIVITY OF THE LONG-RANGE COST ESTIMATES

The first part of this appendix discusses the assumptions and methods which underlie the cost estimates. Within that discussion all comments pertain to the cost estimates under each of alternatives I, II, and III unless specifically stated otherwise. The assumptions comprising each alternative have been summarized in an earlier section entitled "Economic and Demographic Factors and Assumptions," and hence will be discussed here only insofar as they are related to the methods used.

Although the estimates under alternatives I, II, and III illustrate the variation in the projected cost of the OASDI program resulting from different combinations of assumptions, they do not show the variation resulting from changes in a single assumption. This is because of the complex interactions which exist among the assumptions. The second part of this appendix deals with the sensitivity of the estimates to changes in selected individual assumptions. In this sensitivity analysis, the intermediate set of assumptions is used as a basis, and only the assumption whose effect is being analyzed is varied.

### DETAILS OF THE COST ESTIMATES

#### *General population*

Projections were made of the United States population (including persons overseas covered by the OASDI program) by age and sex for future years to 2055. The starting point was the population on July 1, 1977, as estimated by the Bureau of the Census from the 1970 census and from births, deaths, and net immigration during 1970-77. This population estimate (which includes an adjustment for net census undercount) was increased by the estimated populations in the geographic areas covered by the OASDI program but not included in the estimate of the Bureau of the Census. The population in future years was then projected from anticipated deaths, births, and net immigration.

The average annual improvement in mortality by cause for the period 1969-76 was projected to continue until 1981. From 1981 onward, the projected average annual improvements by cause were assumed to follow the pattern of the period 1951-1969. As shown in appendix table A, projected mortality for 2050 under alternative II is 31.4 percent below that estimated for 1978. This projected improvement in mortality ranges from a low of 22.8 percent for males aged 65 and over to a high of about 54.7 percent for females under 20. Separate mortality projections were developed for alternatives I and III. For alternative I, the projected average annual improvement used

for the intermediate set of assumptions was decreased by 50 percent. For alternative III, the intermediate projected average annual improvement was increased by 50 percent.

APPENDIX TABLE A.—PROJECTED MORTALITY IMPROVEMENT TO CALENDAR YEAR 2050 UNDER ALTERNATIVE II

Sex and age	Age-adjusted death rate <sup>1</sup> (per 100,000)		Mortality improvement (percent)
	1978	2050	
<b>Men:</b>			
Under 20.....	143.9	81.9	43.1
20 to 64.....	642.1	437.2	31.9
65 and over.....	6,425.7	4,959.7	22.8
Total.....	935.2	679.9	27.3
<b>Women:</b>			
Under 20.....	97.2	44.0	54.7
20 to 64.....	329.7	176.9	46.3
65 and over.....	4,148.4	2,829.4	31.8
Total.....	671.8	424.9	36.8
<b>Total:<sup>2</sup></b>			
Under 20.....	120.9	63.3	47.6
20 to 64.....	480.9	302.9	37.0
65 and over.....	5,101.4	3,720.9	27.1
Total.....	800.0	549.0	31.4

<sup>1</sup> Based on the age distribution of the enumerated population of the United States as of Apr. 1, 1970.

<sup>2</sup> Based on the sex distribution of the enumerated population of the United States as of Apr. 1, 1970.

Note: Alternative II is described in the text of this report.

Fertility rates in the United States have shown a much more erratic history than have mortality rates. The total fertility rate (which for a given year is the number of children a woman would have during her lifetime if she were to experience the age-specific birth rates observed in that year) decreased from about 3.3 after World War I to about 2.1 during the Great Depression, only to rise again to about 3.7 in 1957, and then fall to an estimated 1.7 in 1976. Preliminary data indicates a slight upturn to 1.8 in 1978.

The historical variations in fertility rates are a result of social attitudes and economic conditions, both of which are highly capricious. After consideration of the recent behavior of these factors, ultimate total fertility rates of 2.5, 2.1, and 1.5 children per woman were selected for alternatives I, II, and III, respectively. For each alternative, the total fertility rate was projected from its current level to its ultimate level in the year 2005 separately for women born in different years. In comparison with the 1.5 to 2.5 range used in this report, a range of 1.7 to 2.7 was used by the Bureau of Census in its latest series of population projections.<sup>1</sup> Included in both ranges is the theoretical population replacement rate of 2.1 children per woman, which was used in the intermediate set of assumptions. This is the total fertility rate which would eventually result in the same number of annual births as deaths, assuming no net migration and no change in present mortality.

Net immigration was assumed to be 400,000 persons per year in all three alternative sets of assumptions.

Appendix table B presents the projected population by broad age groups under alternatives I, II, and III.

<sup>1</sup> U.S. Bureau of the Census, Current Population Reports, Series P-25, No. 704 "Projections of the Population of the United States: 1977-2050," U.S. Government Printing Office, Washington, D.C., 1977.

APPENDIX TABLE B.—U.S. POPULATION AS OF JULY 1 AND DEPENDENCY RATIOS BY BROAD AGE GROUP UNDER ALTERNATIVES I, II, AND III, CALENDAR YEARS 1975-2055

Year	Population (in thousands)				Dependency ratio	
	Under 20	20 to 64	65 and over	Total	Aged <sup>1</sup>	Total <sup>2</sup>
1975.....	77,667	121,849	23,132	222,648	0.190	0.827
1976.....	76,860	123,861	23,630	224,351	.191	.811
1977.....	76,024	126,037	24,105	226,166	.191	.794
1978.....	75,133	128,217	24,645	227,995	.192	.778
Alternative I:						
1979.....	74,392	130,366	25,160	229,918	.193	.764
1980.....	73,804	132,479	25,694	231,978	.194	.751
1985.....	73,093	142,218	28,323	243,634	.199	.713
1990.....	76,973	148,453	30,997	256,423	.209	.727
1995.....	82,700	153,560	32,735	268,994	.213	.752
2000.....	87,818	159,403	33,309	280,530	.209	.760
2005.....	90,628	167,353	33,958	291,939	.203	.744
2010.....	93,429	174,800	36,338	304,567	.208	.742
2015.....	97,621	179,775	41,012	318,407	.228	.771
2020.....	103,132	182,646	46,675	332,453	.256	.820
2025.....	108,538	184,749	52,673	345,960	.285	.873
2030.....	112,934	189,212	57,030	359,176	.301	.898
2035.....	117,071	197,750	58,039	372,860	.293	.886
2040.....	122,035	208,247	57,149	387,431	.274	.860
2045.....	127,938	218,687	56,198	402,823	.257	.842
2050.....	134,008	227,434	57,578	419,020	.253	.842
2055.....	139,657	236,141	60,571	436,370	.257	.848
Alternative II:						
1979.....	74,345	130,383	25,187	229,915	.193	.763
1980.....	73,660	132,506	25,756	231,922	.194	.750
1985.....	71,700	142,345	28,629	242,674	.201	.705
1990.....	73,183	148,687	31,577	253,447	.212	.705
1995.....	75,811	153,914	33,611	263,336	.218	.711
2000.....	77,667	159,764	34,488	271,919	.216	.702
2005.....	77,781	166,661	35,441	279,882	.213	.679
2010.....	77,900	171,929	38,160	288,039	.222	.675
2015.....	78,987	174,016	43,257	296,260	.249	.702
2020.....	80,600	173,673	49,452	303,885	.285	.750
2025.....	82,338	171,999	56,118	310,456	.326	.805
2030.....	83,194	171,630	61,215	316,038	.357	.841
2035.....	83,828	174,234	62,856	320,958	.361	.842
2040.....	84,855	178,039	62,548	325,443	.351	.828
2045.....	86,303	181,437	61,881	329,621	.341	.817
2050.....	87,739	183,360	62,639	333,738	.342	.820
2055.....	88,857	185,102	64,232	338,191	.347	.827
Alternative III:						
1979.....	74,273	130,392	25,217	229,882	.193	.763
1980.....	73,441	132,532	25,818	231,790	.195	.749
1985.....	69,596	142,497	29,019	241,112	.204	.692
1990.....	67,456	148,969	32,328	248,754	.217	.670
1995.....	65,398	154,328	34,731	254,456	.225	.649
2000.....	62,349	160,116	35,963	258,428	.225	.614
2005.....	58,644	165,324	37,259	261,227	.225	.580
2010.....	55,630	167,188	40,343	263,161	.241	.574
2015.....	53,345	164,788	45,878	264,012	.278	.602
2020.....	51,401	159,499	52,613	263,513	.330	.652
2025.....	49,329	152,274	59,949	261,552	.394	.718
2030.....	47,062	145,275	65,795	258,131	.453	.777
2035.....	44,950	140,154	68,170	253,274	.486	.807
2040.....	43,174	135,520	68,395	247,089	.505	.823
2045.....	41,624	130,294	67,963	239,881	.522	.841
2050.....	40,109	124,564	67,470	232,143	.542	.864
2055.....	38,572	119,415	66,415	224,402	.556	.879

<sup>1</sup> Population 65 and over as ratio to population 20 to 64.<sup>2</sup> Population 65 and over plus population under 20 as ratio to population 20 to 64.

Note: Alternatives I, II, and III are described in the text of this report.

Because many categories of OASDI beneficiaries depend on marital status, the projected total population by age and sex was subdivided into those married, those widowed, those divorced, and those never married for each year of the projection period. Marriage rates were based on data from the National Center for Health Statistics. An overall divorce rate consistent with recent experience was assumed to continue indefinitely.

*Covered population*

Projections of the percentages of the population who worked in covered employment at any time during the year—that is, coverage rates—were made by age and sex on the basis of the projections of unemployment rates and labor force participation rates, and the relationships existing among those rates from 1970 to 1976.

The total unemployment rate has averaged about 5.4 percent for the last 25 years and 6.0 percent for the last 10 years. Under alternatives I, II, and III, the ultimate total unemployment rate was assumed to be 4.0 percent, 5.0 percent, and 6.0 percent, respectively. Unemployment rates by age and sex were projected on the basis of their relationships with the total unemployment rate since 1966.

Labor force participation rates were projected on the basis of historical data since 1960. The ultimate age-adjusted rates reflect a decrease of 1.3 percent for men and an increase of 17.4 percent for women, relative to the 1978 level. These assumptions result in ultimate labor force participation rates for women which average 75.7 percent of those for men. The assumed ultimate rates by age and sex are attained by 2010.

Coverage rates for men are projected to increase slightly for those aged 16–39, and decrease slightly for those of other ages. Coverage rates for women are projected to increase for those under 70, as women participate more in the labor force. Under alternative II, the ultimate age-adjusted coverage rates by sex reflect a decrease of 0.3 percent for men and an increase of 17.5 percent for women relative to the 1978 rates. Under alternatives I and III, the trends in projected coverage rates are similar to those under alternative II.

Coverage rates projected for persons at the older ages reflect a significant deceleration in the recent trend toward earlier retirement. This deceleration was projected because of Public Law 95–256, which generally prohibits mandatory retirement before age 70, and because of the observed increase in labor force participation rates for those aged 65 and over in 1978. For those aged 60 and over, ultimate coverage rates, on an age-adjusted basis, are 5.0 percent lower for men and 2.2 percent higher for women than the corresponding rates in 1978. This compares with a decrease in these rates from 1970 to 1978 of 15.1 percent for men and 8.6 percent for women.

*Taxable payroll*

The taxable payroll is defined as that amount which, when multiplied by the combined employer-employee tax rate, yields the total amount of taxes paid by employers, employees, and the self-employed. Expenditures, when expressed as percent of taxable payroll, can be compared directly to the combined employer-employee tax rate to determine whether the system is operating at a surplus or deficit.

In practice, the taxable payroll was calculated as a weighted average of the earnings on which employers, employees, and the self-employed persons are taxed, where the weighting is done to take into account the lower tax rates on self-employment income, on tips, and on multiple-employer “excess wages” as compared with the combined employer-employee rate. For the period 1979–1988, the amounts of earnings for

employers, employees, and the self-employed were projected separately. After 1988, the amounts of earnings taxable for employers, employees, and the self-employed were each assumed to increase at the compounded rate of the estimated increases in covered workers and in average wages in covered employment.

### *Gross national product*

Expenditures of the OASDI System were expressed as a percent of gross national product as an additional way to measure the cost of the program. A long-range projection of the relationship between taxable payroll and GNP was developed in order to express the cost in this form.

The assumed ratios of taxable payroll to GNP for alternatives I, II, and III are given in appendix table C. These ratios were determined by applying a series of factors to the assumed ratio of total employee compensation in the economy to GNP. The ratio of total employee compensation in the economy to GNP was used as the initial point because it is a measure of the share of output going to workers. This ratio is also a convenient starting point because it has been and can be expected to remain fairly constant over time. Total employee compensation in the economy was related to taxable payroll by a series of five linkages which adjust for various differences in the two measures. The five linkages adjust total employee compensation by removing supplements to wages and salaries, removing wages and salaries earned in noncovered employment, removing wages and salaries earned above the taxable base, including covered self-employment income, and adjusting for the lower effective contribution rates on self-employment income, on tips, and on multiple-employer "excess wages."

APPENDIX TABLE C.—RATIO OF TAXABLE PAYROLL TO GROSS NATIONAL PRODUCT UNDER ALTERNATIVES I, II AND III, CALENDAR YEARS 1960-2050

Calendar year	Ratio of taxable payroll to gross national product		
	Alternative I	Alternative II	Alternative III
1960			0.396
1965			.351
1970			.412
1975			.424
1978			.422
	Alternative I	Alternative II	Alternative III
1979	0.439	0.438	0.442
1980	.444	.442	.446
1990	.443	.437	.427
2000	.430	.412	.385
2010	.417	.385	.351
2020	.405	.370	.334
2030	.393	.355	.317
2040	.381	.341	.302
2050	.370	.328	.287

Note: Alternatives I, II, and III are described in the text of this report.

### *Insured population*

There are three types of insured statuses under the OASDI program: fully, currently, and disability insured. Fully-insured status is

required of an aged worker for his eligibility for a primary retirement benefit, and for his dependents' eligibility for secondary benefits. Fully-insured status is also required of a deceased worker, for his survivors' eligibility for benefits (with the exception of child survivors and parents of eligible child survivors, who may alternatively be eligible if the deceased worker had currently-insured status.) Disability-insured status, which is more restrictive than fully-insured status, is required of a disabled worker for his eligibility for a primary benefit, and for his dependents' eligibility for secondary benefits.

Projections of the percentage of the population who are fully insured were made by age and sex based on recent experience and projected coverage rates. Under all three sets of assumptions, the ultimate levels are projected to be 95 percent for aged men and 85 percent for aged women. Currently-insured status was disregarded in the cost projection because the number of cases in which eligibility for benefits is based solely on currently-insured status is relatively small. Projections of the percentage of the population who are disability insured were developed from the percentages fully insured on the basis of projections of historical trends relating the two. Finally, the fully-insured and disability insured populations were developed from the projected total population by applying the percentages fully-insured and disability-insured.

The fully-insured population by age and sex was further subdivided by marital status, in a manner consistent with the division of the total population by marital status. For males, it was assumed that the probability of being fully insured would not vary by marital status. For females, the probability of being fully insured was assumed to vary by marital status as follows: (1) Single and divorced women were assumed more likely to be fully-insured than married women or widowed women, but less likely to be fully-insured than men. (2) Widowed women were assumed more likely to be fully-insured than married women. The relative difference between a widowed woman's probability of being fully-insured and a married woman's probability of being fully-insured was assumed to decrease through time, reflecting the projected large increase in labor force participation among married women.

#### *Old-age and survivors insurance beneficiaries*

Several types of benefits, at different benefit levels, are payable under the OASI program. Hence, the numbers of beneficiaries have been projected by type of benefit.

The number of retired-worker beneficiaries was projected from the aged fully-insured population. The percentages, by age and sex, of the insured population who were receiving benefits at the beginning of 1979 were projected to increase gradually on the basis of past trends (after adjustment for changes in the earnings test, in the mandatory retirement age, and in the level of unemployment). The proportions of retired-worker beneficiaries to aged population show gradual increases in the implicit retirement rates.

The number of wife beneficiaries aged 62 and over of male retired-worker beneficiaries was estimated from the population projection by

marital and insured status. All uninsured wives aged 62 and over, excluding those having husbands not receiving retired-worker benefits, those withheld according to the retirement test, and those eligible for a government pension from earnings in non-covered employment, were assumed to receive benefits. The number of husband beneficiaries aged 62 and over of female retired-worker beneficiaries was estimated in a similar manner.

The number of child beneficiaries of retired-worker beneficiaries was projected by ratios to the number of retired-worker beneficiaries, by sex, as derived from recent data and projected according to the fertility assumptions.

The number of young wife beneficiaries was estimated by extrapolating the base year ratio of the number of such beneficiaries to the estimated number of child beneficiaries of male retired-worker beneficiaries. The extrapolation reflects projected fertility and female labor force participation. Young husband beneficiaries were not taken into account because of the negligible cost involved.

The number of child-survivor beneficiaries was based on the number of orphans in the United States, which was projected by multiplying the projected child population by the age-specific probability of being an orphan. These probabilities were derived by using distributions of age of parent at birth of child and death rates consistent with the population projections. The number of orphans was then adjusted to include eligible disabled orphans aged 18 and over and to eliminate orphans of uninsured deceased parents. For nondisabled children aged 18-21 a further reduction was made to exclude those not attending school.

The number of mother beneficiaries was estimated by a method similar to the one used to estimate the number of young wife beneficiaries, i.e., extrapolating the present ratio of such beneficiaries to child-survivor beneficiaries (excluding those nondisabled children aged 18-21 who were attending school). The number of father beneficiaries was estimated in a similar manner.

The number of widow beneficiaries aged 60 and over was estimated from the population by marital and insured status. All uninsured widows aged 60 and over, excluding those whose deceased husbands were not fully-insured, those withheld according to the retirement test, and those eligible for a government pension from earnings in non-covered employment, were assumed to receive benefits. In addition, some insured widows who never applied for retired-worker benefits were also assumed to receive widow benefits. The number of widower beneficiaries was estimated in a similar manner.

The number of parent beneficiaries was projected on the basis of the past trend in numbers of such beneficiaries. A decrease was assumed from 17,000 at the beginning of 1979 to an ultimate level of 7,000 in 1990.

Appendix table D shows the estimated numbers of beneficiaries under the OASI program.

APPENDIX TABLE D.—OASI BENEFICIARIES WITH MONTHLY BENEFITS IN CURRENT-PAYMENT STATUS AS OF JUNE 30 UNDER ALTERNATIVES I, II, AND III, CALENDAR YEARS 1975-2055

[In thousands]

Calendar Year	Retired workers and dependents			Survivors				Total
	Workers	Wives and husbands	Children	Mothers and fathers	Children	Widows and widowers	Parents	
1975	16,210	2,836	633	568	2,905	3,823	22	26,998
1976	16,789	2,867	638	576	2,911	3,939	21	27,740
1977	17,380	2,899	670	573	2,843	4,042	19	28,428
1978	17,924	2,942	662	569	2,800	4,147	18	29,062
Alternative I:								
1979	18,642	2,985	664	575	2,760	4,257	17	29,900
1980	19,206	2,995	654	572	2,730	4,351	15	30,523
1985	22,005	3,027	608	562	2,614	4,811	10	33,637
1990	24,580	3,048	456	490	2,251	4,603	7	35,435
1995	26,251	2,973	351	545	2,332	4,547	7	37,006
2000	27,128	2,856	357	578	2,500	4,454	7	37,880
2005	28,581	2,760	405	580	2,603	4,312	7	39,248
2010	31,673	2,819	496	564	2,621	4,253	7	42,433
2015	36,535	2,874	628	560	2,636	4,187	7	47,427
2020	42,477	2,938	745	570	2,711	4,204	7	53,652
2025	48,242	2,968	827	594	2,835	4,501	7	59,774
2030	51,799	2,895	830	608	2,930	4,388	7	63,457
2035	52,860	2,751	795	616	2,995	4,431	7	64,455
2040	52,164	2,560	758	627	3,045	4,393	7	63,554
2045	52,098	2,504	774	646	3,128	4,349	7	63,506
2050	53,824	2,602	838	670	3,250	4,292	7	65,483
2055	56,671	2,284	902	687	3,347	4,299	7	68,697
Alternative II:								
1979	18,662	2,988	664	575	2,760	4,257	17	29,923
1980	19,266	3,004	656	572	2,729	4,351	15	30,593
1985	22,305	3,068	616	560	2,606	4,811	10	33,976
1990	25,106	3,124	466	489	2,216	4,652	7	36,060
1995	27,007	3,085	359	538	2,230	4,608	7	37,834
2000	28,136	2,992	359	568	2,308	4,538	7	38,908
2005	29,865	2,923	391	571	2,323	4,408	7	40,488
2010	33,288	3,009	463	558	2,284	4,363	7	43,972
2015	38,564	3,085	570	545	2,235	4,291	7	49,297
2020	45,035	3,180	670	539	2,239	4,315	7	55,985
2025	51,436	3,235	733	530	2,261	4,416	7	62,618
2030	55,645	3,201	740	521	2,265	4,519	7	66,898
2035	57,307	3,083	714	518	2,254	4,580	7	68,463
2040	57,092	2,915	683	519	2,236	4,564	7	68,016
2045	57,107	2,849	691	521	2,231	4,515	7	67,921
2050	58,120	2,891	724	520	2,245	4,409	7	68,916
2055	59,637	2,992	753	515	2,247	4,324	7	70,475
Alternative III:								
1979	18,682	2,990	665	575	2,760	4,257	17	29,946
1980	19,339	3,014	658	572	2,728	4,351	15	30,678
1985	22,639	3,113	623	556	2,593	4,811	10	34,345
1990	25,754	3,219	477	482	2,153	4,714	7	36,806
1995	27,948	3,227	370	527	2,078	4,705	7	38,862
2000	29,361	3,170	355	546	2,008	4,655	7	40,103
2005	31,405	3,122	361	549	1,896	4,538	7	41,878
2010	35,189	3,238	407	542	1,771	4,482	7	45,638
2015	40,904	3,339	456	529	1,667	4,419	7	51,321
2020	47,909	3,462	510	509	1,589	4,430	7	58,416
2025	54,957	3,553	545	476	1,514	4,524	7	65,576
2030	59,842	3,557	552	448	1,432	4,633	7	70,471
2035	62,122	3,466	535	424	1,349	4,723	7	72,626
2040	62,426	3,315	515	401	1,272	4,721	7	72,657
2045	62,340	3,229	512	381	1,210	4,658	7	72,337
2050	61,809	3,167	509	360	1,153	4,484	7	71,589
2055	60,886	3,093	494	339	1,095	4,288	7	70,202

Note: Alternatives I, II, and III are described in the text of this report.

In addition to the beneficiaries who receive full benefits, some persons also receive residual benefits consisting of the excess of any potential secondary benefits over their own primary benefit. Estimates of the number of such residual payments were made separately for wives, widows, husbands, and widowers. Residual payments to other beneficiaries were not taken into account because of the negligible cost involved.

### *Disability insurance beneficiaries*

The number of disabled-worker beneficiaries was projected from the population exposed to disability, which was developed from the disability-insured population by removing those persons already entitled to disabled-worker benefits. The number of newly entitled beneficiaries was developed from the exposed population by applying disability incidence rates. To obtain the number of currently entitled beneficiaries, termination rates were applied to the population consisting of the newly entitled beneficiaries and those already currently entitled.

The incidence rates were projected by age, sex, and year of exposure to disability. They were based on estimated average annual rates for the period 1972-75, updated to reflect the aggregate disability benefit award experience through calendar year 1978, and adjusted to reflect the large benefit reduction for young disabled workers having onsets of disability in 1979 or later (in accordance with the 1977 amendments). Although disability awards declined by over 20 percent during 1978, age-sex specific incidence rates were assumed to increase over the period 1979-1998 to about 10 percent higher than the average for 1977-1978, and to remain constant thereafter. This represents a gradual return to 1976-1977 experience.

The termination rates were projected by age, sex, and duration of entitlement. They were based on mortality and recovery experience of disabled-worker beneficiaries during 1973-77, and were assumed to remain constant in the future. All disability benefits were assumed to terminate at age 65 (when retired-worker benefits become payable).

The number of child beneficiaries entitled under the DI program was projected as a proportion of the number of disabled-worker beneficiaries, by sex, based on recent experience and allowing for projected changes in fertility.

The number of young wife beneficiaries was projected as a proportion of the number of child beneficiaries of male disabled-worker beneficiaries, based on recent experience and allowing for projected changes in fertility and female labor force participation. The number of young husband beneficiaries was projected in a similar manner.

The number of aged wife beneficiaries was projected as a proportion of the number of male disabled-worker beneficiaries. The number of aged husband beneficiaries was projected in a similar manner.

Appendix table E shows the projected number of beneficiaries in the DI program.

APPENDIX TABLE E.—DI BENEFICIARIES WITH MONTHLY BENEFITS IN CURRENT-PAYMENT STATUS AS OF JUNE 30 UNDER ALTERNATIVES I, II, AND III, CALENDAR YEARS 1975-2055

[In thousands]

Calendar year	Workers	Wives and husbands	Children	Total
1975.....	2,363	429	1,333	4,125
1976.....	2,602	468	1,462	4,532
1977.....	2,755	482	1,496	4,733
1978.....	2,858	491	1,512	4,861
Alternative I:				
1979.....	2,894	489	1,496	4,879
1980.....	2,936	485	1,483	4,904
1985.....	3,255	494	1,448	5,187

See footnotes at end of table.

APPENDIX TABLE E.—DI BENEFICIARIES WITH MONTHLY BENEFITS IN CURRENT-PAYMENT STATUS AS OF JUNE 30 UNDER ALTERNATIVES I, II, AND III, CALENDAR YEARS 1975-2055—Continued

[In thousands]

Calendar year	Workers	Wives and husbands	Children	Total
<b>Alternative I—Continued</b>				
1990	3,660	611	1,425	5,696
1995	4,144	658	1,595	6,397
2000	4,793	720	1,882	7,395
2005	5,547	802	2,189	8,538
2010	6,192	887	2,456	9,535
2015	6,563	931	2,656	10,150
2020	6,660	944	2,826	10,430
2025	6,509	932	2,877	10,318
2030	6,338	918	2,821	10,077
2035	6,450	941	2,818	10,209
2040	6,845	991	2,939	10,775
2045	7,350	1,058	3,170	11,578
2050	7,706	1,107	3,368	12,181
2055	7,926	1,143	3,481	12,550
<b>Alternative II:</b>				
1979	2,895	489	1,497	4,881
1980	2,942	486	1,486	4,914
1985	3,335	496	1,484	5,315
1990	3,862	644	1,465	5,971
1995	4,457	705	1,603	6,765
2000	5,209	781	1,829	7,819
2005	6,061	874	2,070	9,005
2010	6,777	961	2,277	10,015
2015	7,180	1,001	2,425	10,606
2020	7,260	1,008	2,538	10,806
2025	7,042	987	2,540	10,569
2030	6,766	956	2,446	10,168
2035	6,744	956	2,397	10,097
2040	6,950	979	2,438	10,367
2045	7,206	1,010	2,538	10,754
2050	7,316	1,024	2,606	10,946
2055	7,325	1,030	2,619	10,974
<b>Alternative III:</b>				
1979	2,897	490	1,498	4,885
1980	2,950	487	1,490	4,927
1985	3,417	509	1,521	5,447
1990	4,067	678	1,480	6,225
1995	4,773	754	1,540	7,067
2000	5,629	844	1,630	8,103
2005	6,576	943	1,725	9,244
2010	7,361	1,029	1,814	10,204
2015	7,778	1,055	1,870	10,703
2020	7,816	1,045	1,898	10,759
2025	7,489	1,008	1,839	10,336
2030	7,039	952	1,710	9,701
2035	6,779	915	1,625	9,319
2040	6,637	889	1,584	9,110
2045	6,437	862	1,552	8,851
2050	6,124	823	1,491	8,438
2055	5,812	784	1,417	8,013

Note: Alternatives I, II, and III are described in the text of this report.

## AVERAGE WAGES AND INFLATION

Future increases in the Consumer Price Index (CPI) and in average wages will directly affect the OASDI program through the automatic adjustment provisions in the law. These provisions require that benefit payments be adjusted to reflect increases in the CPI, and that the benefit formula, the taxable earnings base, and the exempt amount in the retirement test be adjusted to reflect increases in average wages.

The alternative II ultimate real-wage differential of 1.75 percent was based on projections of productivity and consideration of the factors linking productivity and the real wage differential. Since 1951, annual increases in productivity have averaged 2.4 percent, while the real wage

differential has averaged 1.7 percent. This difference of roughly 0.7 percent results from such factors as changes in the average number of hours worked, the degree to which employees share in productivity gains, and the proportion of employee compensation reflected in wages. The ultimate annual increase in productivity is assumed to be 2.4 percent, and the adjustment from the above mentioned factors is assumed to be 0.65 percent, thereby yielding an ultimate real-wage differential of 1.75 percent. The ultimate real-wage differentials for alternatives I and III were assumed to be 2.25 percent and 1.25 percent, respectively.

The ultimate real-wage differentials are not projected to be attained until the year 2000. During 1988-2000, the real-wage differentials are generally higher than the ultimate values, averaging 2.4 percent, 1.9 percent, and 1.4 percent for alternatives I, II, and III, respectively. The higher real-wage differentials reflect movement toward a more mature work force before the turn of the century, which is expected to result in productivity growth that is higher than the assumed ultimate growth.

For alternative II, the CPI was assumed to increase ultimately at an annual rate of 4 percent, which is slightly higher than the 3.4 percent average over the last 30 years. This level was selected because the trend since 1913 indicates a tendency for the rate of increase in the CPI to rise slowly with time. The current outlook does not suggest a reversal of this trend, although the recent high rates of increase in the CPI are not expected to continue over the long range. The ultimate increases in the average annual CPI under alternatives I and III of 3 percent and 6 percent, respectively, were chosen so as to include a wider range of possible values than were in previous reports.

The ultimate increases in average annual wages in covered employment were assumed to be 5.25 percent, 5.75 percent, and 7.25 percent, for alternatives I, II, and III, respectively. These were obtained by adding the corresponding percentage increases in the average annual CPI to the assumed percentage increase in real wages for each alternative.

#### *Average benefits*

The amount of the average retired-worker benefit awarded was projected by simulating the automatic benefit adjustment provisions, and calculating future benefits for workers at various earnings levels. The average retired-worker benefit in current payment status was projected on the basis of the distribution of current beneficiaries by year of award, their average awarded benefits, and the increase in their benefits since the year of award. The average benefits for all other persons receiving monthly benefits from the OASI trust fund (except young survivors benefits and residual benefits paid to wives, widows, husbands, and widowers) were projected to increase at the same rate as the average retired-worker benefit. The average benefits for young survivors and the average residual benefits were projected to increase at rates that were slightly slower and faster, respectively, than the rate of increase in the average retired-worker benefit. The average benefits for all persons receiving monthly benefits from the DI trust fund were assumed to increase at the same rate as the average disabled-worker benefit, which was projected in a manner similar to that of the average retired-worker benefit.

*Benefit payments*

Monthly benefit payments were calculated as the product of the number of beneficiaries and their corresponding average benefits. These amounts were then adjusted to include retroactive payments to newly entitled beneficiaries and residual payments to dually entitled beneficiaries. Retroactive payments result from the provision in the law which allows a beneficiary who has not elected early retirement to receive up to 12 months' benefits retroactive from the date of initial entitlement to benefits. Residual payments are those amounts paid in excess of the primary benefits to those persons who are also eligible to receive a secondary benefit.

Lump-sum death payments were calculated as the product of the number of such payments (which was projected by applying the assumed mortality rates to the projected fully-insured population) and the amount of the lump-sum death payment (\$255).

*Administrative expenses*

The projection of administrative expenses through 1988 was based on assumed increases in average wages, increases in the CPI, and increases in the number of beneficiaries. For the years after 1988, administrative expenses were assumed to increase at the compounded rate of the estimated increases in the number of beneficiaries and in average wages in covered employment.

*Railroad retirement financial interchange*

The effect of the financial interchange with the railroad retirement program was evaluated on the basis of trends similar to those used in estimating the cost of the OASDI benefits. The resulting effect was an average annual long-range loss to the OASDI system of 0.02 percent of taxable payroll.

*Reimbursement for noncontributory credits*

Reimbursement from the general fund of the Treasury for non-contributory credits for military service has not been reflected in the cost estimates. The reduction of cost resulting from such reimbursement is estimated to be about 0.05 percent of taxable payroll currently, and to decrease as percent of taxable payroll until about 2015, after which it is negligible.

Reimbursement from the general fund of the Treasury for special benefits to certain persons aged 72 and over has not been reflected in the cost estimates. The reduction in cost resulting from such reimbursement is estimated to be 0.02 percent of taxable payroll currently, and to decrease to a negligible cost after 1984.

SENSITIVITY OF COST ESTIMATES TO CHANGES IN SELECTED INDIVIDUAL  
ASSUMPTIONS

*Mortality*

Appendix table F shows the projected average expenditures as percent of taxable payroll under alternative II in combination with three different assumptions as to ultimate future improvement in mortality. Those three assumptions are: improvement of approximately 17 percent from the level experienced in 1977 (as assumed for alternative I),

improvement of approximately 31 percent (as assumed for alternative II), and improvement of approximately 43 percent (as assumed for alternative III). The improvement is assumed to become fully effective by 2050, and is gradually reflected in earlier years. Mortality is assumed to continue improving after 2050.

APPENDIX TABLE F.—ESTIMATED AVERAGE EXPENDITURES OF OASDI SYSTEM UNDER ALTERNATIVE II WITH VARIOUS MORTALITY ASSUMPTIONS

[As percent of taxable payroll]

Calendar years	Mortality improvement <sup>1</sup>		
	17 percent	31 percent	43 percent
1979-2003.....	10.45	10.59	10.76
2004-28.....	12.81	13.26	13.79
2029-53.....	15.36	16.30	17.33
1979-2053.....	12.87	13.38	13.96

<sup>1</sup> The mortality improvement is the ratio of the age-adjusted death rate in the year 2050 to that in 1978. Mortality is assumed to continue improving after 2050.

Note: Alternative II is described in the text of this report. Taxable payroll is adjusted to take into account the lower contribution rates on self-employment income, on tips, and on multiple-employer "excess wages" as compared with the combined employer-employee rate.

Over the medium-range period, the average of the estimated expenditures increases with increasing mortality improvement from 10.45 percent of taxable payroll (for 17 percent mortality improvement) to 10.76 percent of taxable payroll for (43 percent improvement). Over the long-range period, a similar but more pronounced trend exists. The estimated long-range average varies from 12.87 percent of taxable payroll (for 17 percent mortality improvement) to 13.96 percent of taxable payroll (for 43 percent improvement).

The projected average medium-range and long-range costs increase with increasing improvement in mortality because of the relationship between age and mortality. Any mortality improvement in the population over age 65, where mortality rates are the highest, causes a relative extension to the length of time that retirement benefits are paid. Between ages 50 and 65, mortality improvement results in relatively more tax contributions, but this gain in taxes is more than offset by the resulting benefits payable to the additional new retirees at age 65. At the ages of 20 through 50, mortality rates are quite low so that even substantial improvement in the rates would not result in significant gains in the number of covered workers paying social security taxes. Mortality improvement at ages under 20 has relatively little effect, in the long run, on expenditures versus income. Consequently, the net effect of mortality improvement is to increase expenditures more than tax income, thereby resulting in higher costs as a percent of taxable payroll.

#### *Total fertility rate*

Appendix table G shows the projected average expenditures under alternative II and various ultimate total fertility rate assumptions. Those assumptions are: 1.5 (as in alternative III), 2.1 (as in alternative II), and 2.5 children per woman (as in alternative I). The ultimate rates are assumed to occur initially in 2005, and are gradually reflected in earlier years.

APPENDIX TABLE G.—ESTIMATED AVERAGE EXPENDITURES OF OASDI SYSTEM UNDER ALTERNATIVE II WITH VARIOUS FERTILITY ASSUMPTIONS

[As percent of taxable payroll]

Calendar years	Ultimate total fertility rate <sup>1</sup>		
	1.5	2.1	2.5
1979-2003.....	10.59	10.59	10.59
2004-28.....	14.53	13.26	12.57
2029-53.....	21.59	16.30	13.91
1979-2053.....	15.57	13.38	12.35

<sup>1</sup> The total fertility rate for a given year is the number of children a woman would have during her lifetime if she were to experience the age-specific birth rates observed in that year, and were to survive the entire child-bearing period. Ultimate rates are assumed to be attained by 2005.

Note: Alternative II is described in the text of this report. Taxable payroll is adjusted to take into account the lower contribution rates on self-employment income, on tips, and on multiple-employer "excess wages" as compared with the combined employer-employee rate.

Over the medium-range period, the average of the estimated expenditures is 10.59 percent of taxable payroll under all three fertility assumptions. The long-range average of the estimated expenditures varies from 15.57 percent of taxable payroll (for 1.5 children per woman) to 12.35 percent of taxable payroll (for 2.5 children per woman).

During the medium-range period, changes in fertility affect the working population only slightly, and contribute a relatively unimportant number of additional child beneficiaries. Hence the program cost is affected negligibly. Later in the 75-year period, however, under higher fertility the labor force increases more than the beneficiary population, so that the average long-range expenditures when expressed as percent of taxable payroll decreases with increasing fertility.

### Disability

Appendix table H shows the projected average expenditures as percent of taxable payroll under alternative II in combination with three different assumptions as to future increase in disability incidence. Those assumptions are: no increase over the average observed during 1977-78 (as assumed for alternative I), increase of about 10 percent (as assumed for alternative II), and increase of about 20 percent (as assumed for alternative III). The increase is assumed to become fully effective by 1998, and is gradually reflected in earlier years.

APPENDIX TABLE H.—ESTIMATED AVERAGE EXPENDITURES OF OASDI SYSTEM UNDER ALTERNATIVE II WITH VARIOUS DISABILITY ASSUMPTIONS

[As percent of taxable payroll]

Calendar years	Disability incidence increase <sup>1</sup>		
	Zero percent	10 percent	20 percent
1979-2003.....	10.51	10.59	10.66
2004-28.....	13.09	13.26	13.44
2029-53.....	16.13	16.30	16.48
1979-2053.....	13.24	13.38	13.53

<sup>1</sup> The disability incidence increase is the ratio of the age-adjusted incidence rate in 1998 and later to the average age-adjusted incidence rate during 1977-78.

Note: Alternative II is described in the text of this report. Taxable payroll is adjusted to take into account the lower contribution rates on self-employment income, on tips, and on multiple-employer "excess wages" as compared with the combined employer-employee rate.

Over the medium-range period, the average of the estimated expenditures increases with increasing disability incidence increase from 10.51 percent of taxable payroll (for no increase) to 10.66 percent of taxable payroll (for 20 percent increase). Over the long-range period, the estimated average varies from 13.24 percent of taxable payroll (for no increase) to 13.53 percent of taxable payroll (for 20 percent increase).

### *Consumer Price Index*

Appendix table I shows the projected average expenditures under alternative II with assumed ultimate annual CPI increases of 2 percent, 3 percent (as in alternative I), 4 percent (as in alternative II), 5 percent, and 6 percent (as in alternative III). In each case the ultimate real-wage differential is assumed to be  $1\frac{3}{4}$  percent, yielding ultimate percentage increases in average annual wages of  $3\frac{3}{4}$ ,  $4\frac{3}{4}$ ,  $5\frac{3}{4}$ ,  $6\frac{3}{4}$ , and  $7\frac{3}{4}$  percent, respectively. The assumptions used in earlier years gradually reflect the ultimate values.

APPENDIX TABLE I.—ESTIMATED AVERAGE EXPENDITURES OF OASDI SYSTEM UNDER ALTERNATIVE II WITH VARIOUS CONSUMER PRICE INDEX ASSUMPTIONS

[As percent of taxable payroll]

Calendar years	Ultimate percentage increase in wages—CPI <sup>1</sup>				
	3 $\frac{3}{4}$ —2	4 $\frac{3}{4}$ —3	5 $\frac{3}{4}$ —4	6 $\frac{3}{4}$ —5	7 $\frac{3}{4}$ —6
1979-2003 .....	10.74	10.68	10.59	10.49	10.40
2004-28 .....	13.68	13.47	13.26	13.04	12.84
2029-53 .....	16.91	16.60	16.30	15.98	15.69
1979-2053 .....	13.78	13.58	13.38	13.17	12.97

<sup>1</sup> The 1st value in each pair is the assumed annual percentage increase in average wages after 1999. The 2d value is the assumed annual percentage increase in CPI after 1984. The assumptions used in earlier years gradually reflect the ultimate values.

Note: Alternative II is described in the text of this report. Taxable payroll is adjusted to take into account the lower contribution rates on self-employment income, on tips, and on multiple-employer "excess wages" as compared with the combined employer-employee rate.

Over both the medium-range and long-range periods, the average of the estimated expenditures decreases with increasing rates of increase in the CPI. Over the medium-range, the average of the estimated expenditures varies from 10.74 percent of taxable payroll (assuming an ultimate rate of increase in the CPI of 2 percent) to 10.40 percent of taxable payroll (assuming an ultimate rate of 6 percent). Over the long-range, the average of the estimated expenditures varies from 13.78 percent of taxable payroll to 12.97 percent of taxable payroll.

The trend of decreasing cost with increasing rate of increases in the CPI, results from the time lag between the effect on the income to the system and the effect on benefit expenditures. When assuming a higher rate of increase in the CPI (in conjunction with a constant real-wage differential), the effect on income to the system of the implied higher rate of increase in wages is experienced immediately, while the effect on benefits of the higher rate of increase in the CPI is experienced with about a half-year lag. In addition, the effect on benefits of the higher rate of increase in wages is experienced with about a two-year lag.

*Real wage differential*

Appendix table J shows the estimated average expenditures under alternative II with assumed ultimate real-wage differentials of  $1\frac{1}{4}$  percent (as in alternative III),  $1\frac{3}{4}$  percent (as in alternative II), and  $2\frac{1}{4}$  percent (as in alternative I). In each case the ultimate annual rate of increase in the CPI is assumed to be 4 percent yielding ultimate annual increases in average wages of  $5\frac{1}{4}$  percent,  $5\frac{3}{4}$  percent, and  $6\frac{1}{4}$  percent, respectively. The assumptions used in earlier years gradually reflect the ultimate values.

APPENDIX TABLE J.—ESTIMATED AVERAGE EXPENDITURES OF OASDI SYSTEM UNDER ALTERNATIVE II WITH VARIOUS REAL WAGE ASSUMPTIONS

[As percent of taxable payroll]

Calendar years	Ultimate percentage increase in wages-CPI <sup>1</sup>		
	$5\frac{1}{4}$ —4	$5\frac{3}{4}$ —4	$6\frac{1}{4}$ —4
1979—2003.....	10.91	10.59	10.28
2004—28.....	13.89	13.26	12.66
2029—53.....	17.11	16.30	15.52
1979—2053.....	13.97	13.38	12.82

<sup>1</sup> The 1st value in each pair is the assumed annual percentage increase in average wages after 1999. The 2d value is the assumed annual percentage increase in CPI after 1984. The difference between the 2 values is the real wage differential. The assumptions used in earlier years gradually reflect the ultimate values.

Note: Alternative II is described in the text of this report. Taxable payroll is adjusted to take into account the lower contribution rates on self-employment income, on tips, and on multiple-employer "excess wages" as compared with the combined employer-employee rate.

Over the medium-range period, the average of the estimated expenditures decreases from 10.91 percent of taxable payroll (assuming a  $1\frac{1}{4}$  percent real-wage differential) to 10.28 percent of taxable payroll (assuming a  $2\frac{1}{4}$  percent differential). Over the long-range period, the average decreases from 13.97 percent of taxable payroll to 12.82 percent of taxable payroll.

The average medium-range and long-range expenditures decrease with increasing real-wage differentials for two reasons. One is that there is a lag between the time when a worker makes contributions based on the assumed higher earnings and the time when he draws benefits based on those higher earnings. The other is that the benefits to those already eligible—benefits which increase according to the increases in the CPI, not wages—are smaller relative to the payrolls based on the higher real-wage differentials.

## APPENDIX B.—DETERMINATION AND ANNOUNCEMENT OF SOCIAL SECURITY BENEFIT INCREASES <sup>1</sup>

I hereby determine and announce a cost-of-living increase of 6.5 percent in benefits under the Social Security Act (the act) under title II effective with the month of June 1978 and under title XVI effective with the month of July 1978. This is pursuant to authority contained in section 215(i) of the Social Security Act (42 U.S.C. 415(i)), as amended by section 201 of Pub. L. 95-216, enacted December 20, 1977, and in section 1617 of the Social Security Act (42 U.S.C. 1382f).

The revised table of benefits following this notice is deemed to appear in section 215(a) of the act. For transitional insured persons aged 72 and over entitled under section 227 of the act (42 U.S.C. 427) and for uninsured persons aged 72 and over entitled under section 228 of the act (42 U.S.C. 428), the amounts of \$83.70 and \$41.90 per month are established and deemed to appear in sections 227 and 228. The additional amount of the supplemental security income benefit payable to essential persons for a year under section 211 of Pub. L. 93-66 is increased to \$1,137.60.

Annual income limitations under the Supplemental Security Income Program for the aged, blind, and disabled, are increased to \$2,272.80 and \$3,409.20. (The last cost-of-living increase in benefits under titles II and XVI of the Social Security Act and in income limitations for beneficiaries under the Supplemental Security Income Program herein referred to was published on May 12, 1977, at 42 FR 24209.)

### AUTOMATIC BENEFIT INCREASE DETERMINATION

Section 215(i) of the Social Security Act requires that, when certain conditions are met in the first calendar quarter of a year, the Secretary shall determine that a cost-of-living increase in benefits and income limitations is due. That section further specifies a formula which automatically determines the amount of any cost-of-living increase in benefits and income limitations, based on the Consumer Price Index reported by the Department of Labor.

Section 215(i)(2)(A) of the act provides that the Secretary shall determine each year, whether there is a cost-of-living computation quarter in such year. If he so determines, he shall, effective with June of that year, increase benefits for individuals entitled under sections 227 and 228 of the act, and shall increase the primary insurance amounts of all other individuals entitled to benefits under title II of the act (excluding, from any automatic cost-of-living benefit increases before June 1979, primary insurance amounts determined under section 215(a)(3)).

<sup>1</sup> This statement was published in the Federal Register for May 15, 1978 (Vol. 43, No. 94, pp. 20867-72).

The percentage of increase in benefits shall equal the percentage of increase by which the Consumer Price Index for the cost-of-living computation quarter exceeds the index for the most recent prior base quarter or cost-of-living computation quarter.

Section 215(i)(1) of the act defines a base quarter as a calendar quarter ending on March 31 in each year after 1974, or any other calendar quarter in which occurs the effective month of a general benefit increase. Section 215(i)(1) also defines a cost-of-living computation quarter as a base quarter in which the Consumer Price Index prepared by the Department of Labor exceeds by not less than 3 percent such index in the later of (1) the last prior cost-of-living computation quarter or, (2) the most recent calendar quarter in which a general benefit increase was effective. However, there shall be no cost-of-living computation quarter in any calendar year if, in the prior year, a general benefit increase was enacted or becomes effective. Section 215(i)(1) of the act further provides that the Consumer Price Index for a base quarter or a cost-of-living computation quarter shall be the arithmetical mean of such index for the 3 months in such quarter.

Beginning with the Consumer Price Index (CPI) for January 1978, the Department of Labor has been publishing three versions of the CPI: the unrevised CPI for urban wage earners and clerical workers, the revised CPI for urban wage earners and clerical workers, and the new CPI for all urban consumers. The revised CPI for urban wage earners and clerical workers is being used for the first quarter of 1978 in this determination because it is an improved, updated version of the CPI for urban wage earners and clerical workers.

The revised Consumer Price Index for urban wage earners and clerical workers prepared by the Department of Labor for each month in the quarter ending March 31, 1978, was: for January 1978, 187.1; for February 1978, 188.4; for March 1978, 189.7. The arithmetical mean for this calendar quarter is 188.4. This result is compared to the last cost-of-living computation quarter, which ended March 31, 1977. The Consumer Price Index for each month in that quarter was: for January 1977, 175.3; for February 1977, 177.1; for March 1977, 178.2. The arithmetical mean for that calendar quarter was 176.9. The increase for the calendar quarter ending March 31, 1978, is 6.5 percent. Thus, since the percentage of increase in the Consumer Price Index from the calendar quarter ending March 31, 1977, to the calendar quarter ending March 31, 1978, is not less than 3 percent, the quarter ending March 31, 1978, is a cost-of-living computation quarter. Consequently, a cost-of-living benefit increase of 6.5 percent is effective for benefits under title II of the act beginning June 1978.

#### TITLE II BENEFITS

Title II benefits are payable under the Federal old-age, survivors, and disability insurance program. Individuals entitled under such programs include insured workers, wives, husbands, children, widows, widowers, mothers, and parents.

In accordance with section 215(i)(2)(D)(iv) of the act, the primary insurance amounts and the maximum family benefits shown in columns IV and V, respectively, of the revised benefit table set forth below were obtained by increasing by 6.5 percent the corresponding amounts established by: (1) The last cost-of-living increase; and (2) the extension of the benefit table made under section 215(i)(2)(D)(v) and published on November 4, 1977, at 42 FR 57754.

Section 227 of the act provides limited benefits to a worker, who became age 72 before 1969 and was not insured under the usual requirements, and to his wife or widow. Section 228 of the act provides similar benefits at age 72 for certain uninsured persons. The current monthly benefit amounts of \$78.50 and \$39.30 established under sections 227 and 228 of the act are increased by 6.5 percent to obtain the new amounts of \$83.70 and \$41.90.

#### TITLE XVI BENEFITS

Section 1617 of the Social Security Act provides that, whenever the benefits under title II are increased as a result of a determination made under section 215(i), the amounts in sections 1611(a)(1)(A), 1611(a)(2)(A), and 1611(b) of the Social Security Act and in section 211(a)(1)(A) of Pub. L. 93-66, shall be increased. The new amounts are effective with months after the month in which the title II increase is effective. The percentage of such increase shall be the same as the percentage of increase by which the title II benefits are increased (and rounded, when not a multiple of \$1.20, to the next higher multiple of \$1.20).

In accordance with section 1617, monthly Federal Supplemental Security Income (SSI) guarantees under the SSI program for the aged, blind, and disabled are increased effective with July 1978, by 6.5 percent. The current Federal SSI guarantees of \$2,133.60 and \$3,200.40 are increased by 6.5 percent to \$2,272.80 and \$3,409.20. The actual benefit received by the individual is the Federal SSI guarantee less any countable income. The amount of the current Federal SSI guarantee of \$1,068.00 to essential persons under section 211(a)(1)(A) of Pub. L. 93-66 is increased by 6.5 percent to obtain a new amount of \$1,137.60.

(Catalog of Federal Domestic Assistance Programs Nos. 13.802-5, and 13.807 Social Security Programs.)

Dated: May 9, 1978.

HALE CHAMPION,  
*Acting Secretary.*

[The revised table of benefits that followed the above announcement in the Federal Register is not reproduced here because of its length.]



APPENDIX C.—DETERMINATION AND ANNOUNCEMENT  
OF SOCIAL SECURITY CONTRIBUTION AND BENEFIT  
BASE, QUARTER OF COVERAGE AMOUNT, AND RETIRE-  
MENT TEST EXEMPT AMOUNTS FOR 1979 <sup>1</sup>

*Summary:* The Secretary has determined—

(1) The social security contribution and benefit base to be \$22,900 for remuneration paid in 1979 and self-employment income earned in taxable years beginning in 1979;

(2) The amount of earnings a person must have to be credited with a quarter of coverage in 1979 to be \$260; and

(3) The monthly exempt amount under the social security retirement test for taxable years ending in calendar year 1979 to be \$375 for beneficiaries aged 65 and over and \$290 for beneficiaries under age 65.

A table reflecting the new higher average monthly wage and related benefit amounts made possible by the higher average contribution and benefit base is also published. The table will be used to primarily compute the retirement benefits of workers who reach age 62 before 1979. Benefits based on earnings of workers who reach age 62, or who die or become disabled before reaching age 62, in 1979 or later will generally be determined by a new benefit formula provided by the Social Security Amendments of 1977 (Pub. L. 95-216).

*Supplementary information:* Sections 203(f)(8), 213(d) and 230(a) of the Social Security Act (42 U.S.C. 403(f)(8), 413(d) and 430(a)) require the Secretary of Health, Education, and Welfare to publish in the FEDERAL REGISTER on or before November 1, 1978, the contribution and benefit base, the quarter of coverage amount, and the retirement test exempt amount for calendar year 1979.

CONTRIBUTION AND BENEFIT BASE

The contribution and benefit base serves two purposes:

(1) It is the maximum annual amount of earnings on which social security taxes are paid.

(2) It is the maximum annual amount used in figuring a person's social security benefits.

Section 230(c) of the Social Security Act specifies that the amount of the contribution and benefit base for 1979 is \$22,900.

QUARTER OF COVERAGE AMOUNT

*Computation.*—The 1979 amount for a quarter of coverage is \$260. A quarter of coverage is the basic unit for determining whether a worker is insured under the social security program. For years before 1978, an individual generally was credited with a quarter of coverage for each quarter in which wages of \$50 or more were paid, or for which \$100 or more of self-employment income were credited, to the

<sup>1</sup>This statement, edited for presentation here, was published in the Federal Register for Nov. 16, 1978 (Vol. 43, No. 222, pp. 53504-6). The extended benefit table which was published at the end of this announcement is not reproduced here because of its length.

individual. Beginning in 1978, wages generally are no longer reported quarterly; annual reports will be made. With the change to annual reporting, section 352(b) of the Social Security Amendments of 1977 amended section 213(d) of the Social Security Act to provide that a quarter of coverage would be credited for each \$250 of an individual's total wages and self-employment income for calendar year 1978 (up to a maximum of four quarters of coverage for the year). Section 213(d) also provides that this \$250 amount shall be redetermined each year and any change published in the FEDERAL REGISTER no later than November 1 of each year. Under the prescribed formula, the quarter of coverage amount for 1979 shall be equal to the 1978 amount of \$250 multiplied by the ratio of (1) the average amount, per employee, of the wages of all employees reported under the program for calendar year 1977 to (2) the average amount of those wages reported for calendar year 1976. The section further provides that if the amount so determined is not a multiple of \$10, it shall be rounded to the nearest multiple of \$10.

*Average wages.*—Average wages for calendar years 1976 and 1977 are determined by using the average wages in reports received by the Social Security Administration for the first calendar quarter of each year. The earnings in the first quarter are considered to give the most accurate results, because many wage earners reach the ceiling for reported earnings before the end of the year while relatively few reach the ceiling in the first quarter.

For each quarter before 1978, taxable wages paid to employees by their employers were posted to the record of earnings of each individual employee. (Beginning in 1978, wages are reported on an annual basis.) These records are referred to as Summary Earnings Records. As the wages were posted to the Summary Earnings Records, the data were tabulated on a 100-percent basis to obtain the total amount of reported taxable wages and the total number of employees for whom the wages were reported. The tabulated data on taxable wages reported for the first calendar quarter of each year 1976 and 1977 were limited to those wages that were reported and posted to the Summary Earnings Records by the end of the quarterly updating operations completed in September of the same year.

About 72.8 million employees had taxable wages reported for the first calendar quarter of 1976 that were posted to the Summary Earnings Records by the end of September 1976, and the average amount of their taxable wages was \$2,306.62 per employee. The corresponding number of employees and average amount of taxable wages for the first calendar quarter of 1977 were 75.1 million and \$2,444.86 respectively. The ratio of average taxable wages reported for the first quarter of 1977 to average taxable wages reported for the first quarter of 1976 is therefore 1.0599318.

*Amount.*—Multiplying the 1978 quarter of coverage amount of \$250 by the ratio of 1.0599318 produces the amount of \$264.98, which must then be rounded to \$260. Accordingly, the quarter of coverage amount for 1979 is \$260.

#### RETIREMENT TEST EXEMPT AMOUNT

*Computation.*—The 1979 amount of \$375 for the retirement test monthly exempt amount for beneficiaries aged 65 through 71 is stated in the law. The corresponding annual retirement test exempt amount

for those individuals is \$4,500. Section 301 of the Social Security Amendments of 1977 amended section 203 of the Social Security Act to provide a higher retirement test exempt amount for beneficiaries aged 65 through 71 than for those beneficiaries under age 65.

The monthly exempt amount of \$290 for beneficiaries under age 65 is determined according to a formula specified in the law, which automatically produces a mathematical result based upon reported statistics. Section 203(f) (8) of the Social Security Act provides that the retirement test monthly exempt amount for 1979 shall be equal to the 1978 amount of \$270 multiplied by the ratio of (1) the average amount, per employee, of the wages of all employees reported under the program for calendar year 1977 to (2) the average amount of those wages reported for calendar year 1976. The section further provides that if the amount so determined is not a multiple of \$10, it shall be rounded to the nearest multiple of \$10.

There is no limit on the amount an individual aged 72 or over may earn and still receive social security benefits. (Beginning in 1982, the age at which the retirement test no longer applies will be reduced from age 72 to age 70.)

*Average wages.*—Average wages for this purpose is determined in the same way as for a quarter of coverage. Therefore, the ratio of the average wages for 1977 compared to 1976 is 1.0599318.

*Exempt amount for persons under age 65.*—Multiplying the 1978 retirement test monthly exempt amount of \$270 by the ratio of 1.0599318 produces the amount of \$286.18. This must then be rounded to \$290. Accordingly, the retirement test monthly exempt amount for persons under age 65 is determined to be \$290 for 1979. The corresponding annual exempt amount for 1979 is \$3,480.

#### EXTENSION OF BENEFIT TABLE EFFECTIVE JANUARY 1979

The following is an extension of the table for determining primary insurance amount and maximum family benefits which appeared in section 215(a) of the Social Security Act before the Social Security Amendments of 1977. This extension reflects the higher average monthly wage and related benefit amounts now possible under the increased contribution and benefit base published by this notice effective with January 1979 in accordance with section 215(i) of the Social Security Act. The extended portion of the benefit table shown here will apply primarily to benefits based on earnings of workers who reach age 62 before 1979. Benefits based on earnings of workers who reach age 62, or who die or become disabled before age 62, in 1979 or later will generally be based on a new benefit formula specified in the Social Security Amendments of 1977.

(Catalog of Federal Domestic Assistance Programs Nos. 13.802-5, and 13.807 Social Security Programs.)

Dated: November 6, 1978

JOSEPH A. CALIFANO, Jr.,  
*Secretary.*

[As previously noted, the extended benefit table which was published at the end of the above announcement in the Federal Register is not reproduced here because of its length.]